

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 05029001  
PUBLICATION DATE : 05-02-93

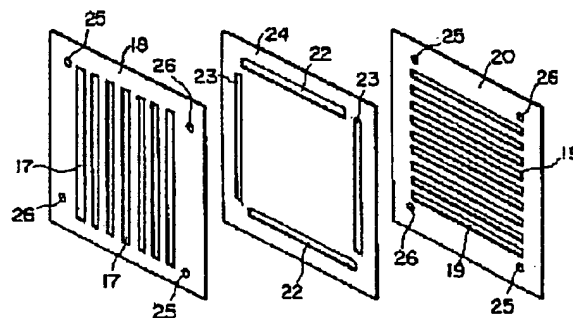
APPLICATION DATE : 17-07-91  
APPLICATION NUMBER : 03176921

APPLICANT : MITSUBISHI HEAVY IND LTD;

INVENTOR : MINEO TOKUICHI;

INT.CL. : H01M 8/02

TITLE : MANUFACTURE OF GAS SEPARATOR



**ABSTRACT :** PURPOSE: To make a compact sized gas separator by forming low-melting-point wax material thin films on the respective contact surfaces of a fuel gas supply plate, an oxidizer gas supply plate and a partition plate, superposing these plates upon each other, and joining them together while heating them to over the melting point of wax materials.

**CONSTITUTION:** Low melting point wax material thin films having thickness of 3-6 $\mu$ m, that is, solder layers are formed on contact planes 27 of a fuel gas supply plate 18, an oxidizer gas supply plate 20, and a partition plate 22. In the case when the thickness exceeds 6 $\mu$ m, there arises the possibility that a part of solder overflows into an oxygen supply groove 17 or a hydrogen supply groove 19 and so on and blocks up there in the case of heating. In the case when the thickness is less than 3 $\mu$ m, gaps are made on the contact planes 27, so that complete joining becomes impossible. These plates are superposed upon each other, and while pressurizing them in a heating furnace under a prescribed welding pressure, they are heated for 15 minutes at a temperature of 350°C, and after the solder layers are melted, they are cooled. Thereby, the contact planes 27 are brought into close contact with each other, and the supply plates 18 and 20 and the partition plate 22 can be joined together without making gaps. As a result of this, there is no need to use reinforcing members.

COPYRIGHT: (C)1993,JPO&Japio

BEST AVAILABLE COPY